70

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/494,817	01/31/2000	Manraj Singh Johl	10992461	3999

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EXAMINER
TANG, KENNETH

ART UNIT	PAPER NUMBER
2127	4

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2002*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-18* is/are rejected.

7)☒ Claim(s) *7,19 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All   b)☐ Some *   c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
  application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *3*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-20 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-6 and 8-18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Nogales et al. (hereinafter Nogales) (US 5,809,328).

3.   As to claim 1, Nogales teaches a method for implementing a hardware controller

that concurrently executes a number of tasks by carrying out operations on behalf of the

tasks, the method comprising:

- determining a format for a context, comprising stored information related to a

  task, that represents the task *(col. 6, lines 29-33)*;

- determining possible states, and transitions between states, that a context

  representing a task currently executed by the hardware controller can occupy at

  each point in the execution of the task, transitions representing operations

  performed on behalf of a task by the hardware controller *(col. 6, line 34)*;

- associating each manager with a data structure for storing contexts occupying

  states contained by the manager *(col. 5, lines 7-13)*;

- defining a data-structure-manipulator manager that implements the data structures

  and that transfers contexts from one data structure to another *(col. 6, lines 42-57)*;

- defining a command interface to the data-structure-manipulator manager for each

  manager *(col. 6, lines 42-57)*; and

- implementing the managers and data-structure-manipulator manager, according to

  the determined states and transitions, so that, when a first manager carries out an

  operation that results in transition of a context to a state contained in a second

  manager, the first manager generates a command to the data-

  structure-manipulator manager to transfer the context from the data structure

  associated with the first manager to the data structure associated with the second

  manager *(col. 6, lines 21-57)*.

4.   Nogales fails to explicitly teach having the number of managers containing

related/common states. However, it is well known and obvious to one of ordinary skill in

the art that related states be grouped together with the same manager because it makes it

simplifies the work for the manager. For example, the manager can perform

related/common operations easier.

5.   As to claim 2, Nogales teaches wherein tasks are provided to the hardware

controller via a signal interface, wherein the hardware controller generates output signals

and output data as a result of execution of a task, and wherein operations carried out by

managers can be invoked via a signal interface provided for each manager *(col. 4, lines

30-45)*.

6.   As to claim 3, Nogales teaches wherein the data-structure-manipulator manager

comprises a manipulator logic circuit for each manager, a manipulator logic circuit for a

manager together with the command interface defined for the manager together

composing a manipulator within the data-structure-manipulator manager corresponding

to the manager *(col. 6, lines 33-36)*.

7.   As to claims 4 and 5, they are rejected for the same reasons as stated in the

rejection of claim 2. In addition, it is well known and obvious that a clock is used to

regulate the timing of the signals because the processor requires this.

8.   As to claim 6, it is rejected for the same reasons as stated in the rejection of claim

1.

9.   As to claim 8, it is rejected for the same reasons as stated in the rejection of claim

1.

10.   As to claim 9, it is rejected for the same reasons as stated in the rejections of

claims 1, 4, and 5.

11.   As to claim 10, it is well known in the art to use the well known data structures in

software programming.

12.   As to claim 11, it is rejected for the same reasons as stated in the rejection of

claim 2.

13.   As to claim 12, it is rejected for the same reasons as stated in the rejection of

claim 1.

14.   As to claim 13, Nogales teaches a subcomponent controller within a

communications controller comprising:

- data storage elements that together compose a number of contexts for storing

    information related to a sequences of data to be exchanged through a

    communications medium connected to the communications controller *(col. 6,*

    lines 47-57);

- logical managers that are each associated with a data structure and that each

    carries out operations on behalf of contexts stored within the associated data

    structure *(col. 6, lines 29-34)*; and

- a data-structure manipulator that implements a number of data structures for

    storing contexts and that transfers contexts between data structures in response to

    receiving context transfer commands from the logical managers *(col. 6, lines 42-*

    57).

15.   As to claims 14 and 15, it is rejected for the same reasons as stated in the

rejections of claims 4-5.

16.   As to claim 16, it is rejected for the same reasons as stated in the rejection of claim 1. In addition, Nogales teaches that the controller is a fiber channel controller *(see Abstract)*.

17.   As to claim 17, it is rejected for the same reasons as stated in the rejection of claims 1 and 16.

18.   As to claim 18, it is rejected for the same reasons as stated in the rejection of claim 10.

Allowable Subject Matter

19.   Claims 7 and 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

20.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US6065087, US5758182, US5949979.
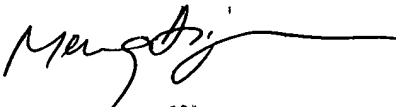

21.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (703) 305-5334. The examiner can normally be reached on 8:30AM - 7:00PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Kt
3/10/04

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